AMSAT News Service Weekly Bulletins
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AMSAT NEWS SERVICE
ANS-246

ANS is a free, weekly, news and information service of AMSAT North America, The Radio Amateur Satellite Corporation. ANS reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

Please send any amateur satellite news or reports to:

ans-editor at amsat.org

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ANS-246 AMSAT News Service Weekly Bulletins

AMSAT News Service Bulletin 246.01
  From AMSAT HQ SILVER SPRING, MD.
September 2, 2012
To All RADIO AMATEURS
BID: $ANS-246.01

Board of Directors Ballots Due by September 15

AMSAT Corporate Secretary Alan Biddle, WA4SCA reminds all AMSAT-NA members, "Your ballots for the 2012 Board of Directors election need to be received at AMSAT-NA headquarters by September 15th, 2012. This is one of your best opportunities to make your views on the path of our organization known."

Ballots for the 2012 AMSAT-NA Board of Directors election have been mailed to all members. Also included is biographical information about each of the candidates.

Select no more than three of the six listed candidates (in alphabetical order):

+ Tom Clark, K3IO
+ Steve Coy, K8UD
+ Mark Hammond, N8MH
+ Lou McFadin, W5DID
+ Gould Smith, WA4SXM
+ Patrick E. Stoddard, WD9EWK

The 3 candidates receiving the most votes will become directors serv-

ing 2 year terms. The 2 receiving the next highest number of votes will be seated as alternates for 1 year terms.

You must mail your ballot back to be received at the AMSAT-NA Office no later than the close of business on September 15, 2012:

AMSAT
850 Sligo Avenue, #600
Silver Spring, MD 20910

[ANS thanks AMSAT Corporate Secretary Alan Biddle, WA4SCA for the above information]

IARU International Amateur Radio Satellite Forum

The IARU International Amateur Radio Satellite Forum will this year be held in conjunction with the AMSAT-UK Colloquium which takes place in Guildford, England on the weekend of September 15-16.

(See: http://www.uk.amsat.org/9862)

The forum, chaired by IARU Amateur Satellite Advisor Hans van de Groenendaal ZS6AKV, takes place on Saturday, September 15 at 1700 BST (1600 UT).

On the Agenda is a report on the activities of the IARU Satellite Adviser and his Advisory Panel.

Colloquium information: http://www.uk.amsat.org/colloquium/twelve

IARU Amateur Radio Satellite Frequency Coordination:
http://www.iaru.org/satellite/

[ANS thanks AMSAT-UK for the above information]

Atlas V Launch From Vandenberg Re-scheduled to September 13

The Atlas V NROL-36 launch from Vandenberg Air Force Base in California, originally planned for August has been now re-scheduled for September 13. This date was selected as one of the first available for launch range operations.

This launch will be carrying a pair of ocean surveillance satellites to locate ships at sea. Also aboard this flight at four cubesats as part of ELaNa IV mission and seven cubesats for government missions.

The ELaNa Cubesats aboard are:
+ CINEMA (Cubesat for Ion, Neutral, Electron, Magnetic fields)
  - o Downlinks for engineering telemetry and command are in the 2400-2450 MHz range; Science telemetry is in 2200-2300 MHz range.

+ CSSWE (Colorado Student Space Weather Experiment)
  - o Downlink 437.345 MHz, 9k6 with AX25

+ CP5 (PolySat)

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   o Downlink 437.405 MHz at 1 watt, AFSK on LSB AX.25 over NRZI at
     1200 baud, every 2 minutes, begins 3.5 hours after first turn-on.

+ CXBN (Cosmic X-Ray Background Nanosatellite)
   o Downlink 437.525 MHz, GFSK, AX.25

The US Government Satellites aboard are:
+ Aeneas
   o First cubesat to deploy 2.4 GHz Dish Antenna. WIFI transmitter
     will transmit on 2425.0 MHz with 1 watt of output power.
   o Downlink 437.600 MHz AX25 1200 bps beacon every 10 seconds and
     spread spectrum two-way link elsewhere in the 70cm band.
+ ORSES (ORS Enabler Satellite)
+ Horus
+ Re
+ Aerocube 4A, 4B, 4C
   o Testing deployable solar panels.
   o Technology demonstration of "parachute-like" devices to deorbit
     satellites.
   o Testing closed-loop attitude control system based around a
     three-axis gyroscope.

A discussion of the launch re-scheduling can be found on-line at:
http://www.nasaspaceflight.com/2012/08/uatlas-v-launch-nrol-36-vandenberg
/

Please refer to the prior bulletin for mission summaries and satel-
lite team web pages: http://amsat.org/pipermail/ans/2012/000637.html

A detailed article of the launch can be found on-line at:
http://www.americaspace.org/?p#568

[ANS thanks NASA, the CubeSat Teams noted above, AMSAT-UK, Gunter's
  Space Page and nasaspaceflightnow.com for the above information]


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Rooms Still Available for AMSAT-UK Colloquium

AMSAT-UK Hon Sec Jim Heck, G3WGM says, "There are still rooms avail-
able at the hotel at which the AMSAT-UK Colloquium will be held on
September 14, 15 and 16. The location of the Colloquium is at the
Holiday Inn, Guildford, Surry, UK. TO BE SURE OF A ROOM AT THE HOTEL
YOU SHOULD BOOK AS SOON AS POSSIBLE TO AVOID DISSAPPOINTMENT!"

This week, Dave Johnson, G4DPZ announced on behalf of the AMSAT-UK
Committee that the program for the Colloquium is now posted on-line
at: http://tinyurl.com/amsat2012

AMSAT-UK is pleased to welcome senior representatives from AMSAT-NA,
AMSAT-DL and AMSAT-SA who will be giving status updates on their res-
pective development programs.

There will be an update on the FUNcube project as well as some real-
time demos of the Engineering model.

There are some other surprises in the programme, so please take a look.

Details of the Colloquium itself can be found at:
http://www.uk.amsat.org/colloquium/twelve
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Exclusive New Product Launch at AMSAT-UK Colloquium

AMSAT-UK are delighted to announce that Howard Long, G6LVB, will be present at the Colloquium this year and will be launching a new "FUN-cube Dongle PRO-PLUS" during his presentation.

Full technical details have been embargoed until his talk and we are not permitted to steal his thunder by releasing further details of this new product in advance. Attendees at the Colloquium will therefore be the first to learn about Howard's latest development which will further advance the applications for SDR devices.

Further details are at: http://www.uk.amsat.org/9565#more-9565 - and at - http://www.uk.amsat.org/colloquium/twelve.

You can book online using PayPal or Credit Card at:
http://shop.amsat.org.uk/shop/catalog/browse

[ANS thanks AMSAT-UK Hon Sec Jim Heck, G3WGM,
Dave, G4DPZ and Trevor, M5AKA for
the above information]

Smartphone and Kinect Satellite Presentations at AMSAT-UK Colloquium

Dr Chris Bridges recently appeared on the nationwide TV channel Sky News discussing why space is cool. On September 15-16 he will be giving two presentations to the AMSAT-UK International Space Colloquium at the Holiday Inn, Guildford, GU2 7XZ, UK. For the details of the Colloquium see: http://www.uk.amsat.org/colloquium/twelve

Chris will cover the Nexus Android Smartphone amateur radio satellite STRaND-1 which will carry both a Resistojet and a Pulsed Plasma Thruster (PPT) module and STRaND-2 which will use Microsoft Xbox Kinect controller technology.

STRaND stands for Surrey Training, Research and Nanosatellite Demonstration and the programme is intended to be a long-term arrangement between the space company SSTL and academic researchers at the Surrey Space Centre (SSC), with STRaND-1 the first of a long line of STRaND nanosatellites.

The dual STRaND-2 cubesats will test a novel in-orbit docking system based upon XBOX Kinect technology that could change the way space assets are built, maintained and decommissioned. The identical twin STRaND-2 satellites will each be a 3 unit Cubesat. Components from the XBOX Kinect games controller to scan the local area and provide the satellites with spatial awareness on all three axes.

SSTL says on their web site, "The STRaND-2 twins will be separated after launch. After the initial phase of system checks, the two satellites will be commanded to perform the docking procedure and, when in close proximity, the Kinect-based docking system will provide the satellites with 3D spatial awareness to align and dock. Other applications for STRaND-2 include the safe removal of space debris and spacecraft maintenance, with a low cost "snap-on" nanosatellite providing backup power, propulsion or additional on-board computing capability."

SSTL Project Lead Shaun Kenyon says, "We were really impressed by what MIT had done flying an autonomous model helicopter that used

Kinect and asked ourselves: Why has no-one used this in space? Once you can launch low cost nanosatellites that dock together, the possibilities are endless, like space building blocks."

Dr. Chris Bridges, Surrey Space Centre Project Lead says, "It may seem far-fetched, but our low cost nanosatellites could dock to build large and sophisticated modular structures such as space telescopes. Unlike today's big space missions, these could be reconfigured as mission objectives change, and upgraded in-orbit with the latest available technologies."

The SSTL employees involved with the STRaND programme are volunteers. It is a condition of the programme that volunteers from SSTL and SSC use their own, free time for STRaND activities (such as lunches and breaks). The project has no budget for staff so is entirely dependent on volunteers.

For further information see http://www.uk.amsat.org/?p=246

[ANS thanks AMSAT-UK for the above information]

TAPR Digital Communications Conference in Atlanta September 21 - 23

The ARRL/TAPR Digital Communications Conference is an international forum for radio amateurs to meet, publish their work, and present new ideas and techniques. Presenters and attendees will have the opportunity to exchange ideas and learn about recent hardware and software advances, theories, experimental results, and practical applications.

Topics include, but are not limited to: Software Defined Radio, digital voice (D-Star, P25, WinDRM, FDMDV, G4GUO), digital satellite communications, Global Position System, precision timing, Automatic Position Reporting System, Digital Signal Processing, HF digital modes, spread spectrum,

This week TAPR published the schedules for the technical and introductory sessions: http://www.tapr.org/pdf/DCC_2012_Schedule.pdf

The DCC Saturday Night Banquet Speaker & Topic will be Bdale Garbee, KB0G talking about the "Sharing the Joy of Making"

The DCC Sunday Morning Seminar will be a hands-on tutorial using Gnuradio to design and implement software defined radios on your laptop presented by Tom Rondeau, KB3UKZ, the leader of the Gnuradio project.

All of the seminar information and registration can be accessed at: http://www.tapr.org/dcc.html

[ANS thanks ARRL and TAPR for the above information]

NASA Issues Request for Information - Nano Satellite Launch Challenge

On August 10, 2012 NASA published a Request for Information (RFI), titled, "Centennial Challenges Nano Satellite Launch Initiative".

The full text of this RFI is available on the US General Services Administration web at: http://tinyurl.com/NASA-NanoSatellite-RFI

Centennial Challenges is a program of prize competitions to stimulate innovation in technologies of interest and value to NASA and the nation.

In 2010 NASA announced a Nano-Satellite Launch (NSL) Challenge to encourage development of safe, low-cost, small-payload delivery systems for frequent access to low Earth orbit (LEO) through innovations in propulsion and other technologies as well as operations and management for broader applications in future launch systems that could result in a commercial capability for dedicated launches of small satellites at a cost comparable to secondary payload launches. To assist in formulation of the Nano-Satellite Launch Challenge, NASA is seeking additional information on the nano-satellite market and on approaches to address the market needs.

There are currently several existing launch vehicles and new launch vehicle programs that could provide ride-sharing opportunities for nano-satellite.

This NASA Nano Satellite Launch Challenge focuses on:

+ Launch vehicle design dedicated to providing greater payload design flexibility for cubesats and other small payloads, more frequent access to space at costs comparable or less than existing or proposed ride-share launch options.

+ Tradeoff designs for a payload market for a very low cost vehicle but with less orbital accuracy or lower reliability?

+ How frequently should the vehicle launch?

+ Initially the Challenge competition would be for one year and a $3M prize purse would be divided between all successful competitors.

+ A second phase of the competition would require successful competitors to deliver payloads to LEO at least ten times within a one-year period using a launch system sized to deliver up to 10Kg to LEO.

  o A total prize purse of $6M would be offered for at least 10 successful payload deliveries to LEO orbit: 1st Place receiving $3M for most deliveries; 2nd place, $2M for next most deliveries; and 3rd place, $1M for next most deliveries.

Responses must be submitted in electronic form no later than September 10, 2012 to Dr. Larry Cooper, Centennial Challenges Program, NASA Headquarters, 300 E Street, SW, Washington, DC 20546-0001. E-mail address: larry.p.cooper at nasa.gov.

For general information on the NASA Centennial Challenges Program see: http://www.nasa.gov/challenges.

[ANS thanks NASA for the above information]

Satellite Shorts From All Over

+ The AMSAT News Service Bulletins are translated into French by Jean-Claude Aveni, TK5GH, and published on the AMSAT-Francophone

web page at: http://www.amsat-f.org/site/index.php

+ Check out the unveiling of the new ICOM IC-7100 HF/50/144/430 MHz transceiver at the Ham Fair 2012 in Tokyo: http://www.youtube.com/watch?v=rd6nQKV9s&feature=are

+ Korean artist Hojun Song traveled to Malmö in Sweden to give this keynote presentation about his innovative amateur radio CubeSat OSSI-1 to the Media Evolution Conference on August 23. OSSI-1 has a beacon in the 145 MHz band and a data communications transceiver in the 435 MHz band. It carries a 44 watt LED array to flash Morse Code messages to observers on Earth. Watch the video at: http://www.uk.amsat.org/9921 - and - http://www.uk.amsat.org/9600

+ Enjoy Hubble's Hidden Treasures selected from an archive of more than 700,000 raw images. More than 3,000 submissions which include some of Hubble's incredible celestial treasures are revealed at: http://www.spacetelescope.org/projects/hiddentreasures/

+ Danish photographer Hans Nyberg has an interactive, scrollable panorama for Apollo 11: http://www.panoramas.dk/moon/apollo-11-the-first-man-on-moon.html

[ANS thanks everyone for the above information]

ARISS Status - 27 August 2012

1. Upcoming School Contacts

The Iruma Junior Ham Club in Iruma, Japan will participate in an ARISS (Amateur Radio on the International Space Station) contact on Sunday, September 2 at 08:32 UTC. The club members recently received their amateur radio licenses and are learning about satellite orbits and space. They look forward to speaking with Astronaut Akihiko Hoshide on the ISS.

2. Students Make Connection with Akihiko Hoshide on ISS

Students from Institute for Education on Space, Wakayama University in Wakayama, Japan spoke with on-orbit Astronaut Akihiko Hoshide, KE5DNI via an ARISS contact on Sunday, August 26. The contact highlighted science lessons about space, satellites and radio waves.

3. ARISS International Team Meeting Held

The monthly ARISS International Team meeting was held on Tuesday, August 21. The team discussed whether ARISS supporters should be recognized on the ARISS website and a status was given on the HamTV project and on the new Ericsson VHF radio which is scheduled to launch later this year. Minutes have been posted: http://ariss.rac.ca/arisstel2012-08-21.htm

4. Astronaut Training Status

Gregory Wiseman, KF5LKT is scheduled for a basic operations training session in September. Wiseman is slated to fly with the Expedition 40 crew in May 2014.

[ANS thanks Carol, KB3LKI, for the above information]

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In addition to regular membership, AMSAT offers membership in the President's Club. Members of the President's Club, as sustaining donors to AMSAT Project Funds, will be eligible to receive additional benefits. Application forms are available from the AMSAT Office.

Primary and secondary school students are eligible for membership at one-half the standard yearly rate. Post-secondary school students enrolled in at least half time status shall be eligible for the student rate for a maximum of 6 post-secondary years in this status. Contact Martha at the AMSAT Office for additional student membership information.

73,
This week's ANS Editor,
Lee McLamb, KU4OS